Abstracts

Oral 16
Agriculture

O16.1 SKIN SYMPTOMS AND WORK RELATED SKIN SYMPTOMS AMONG GRAPE FARMERS IN CRETE, GREECE

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Introduction: Agricultural workers are at high risk of developing occupational skin disease, because they are exposed to many and different skin irritants and allergens. Grape farmers in Crete were found to have a high prevalence of allergic rhinitis and work related respiratory symptoms compared to controls and an increased allergic sensitization to specific pollens. The aim of this study was to measure the prevalence of self-reported skin symptoms and work related skin symptoms among the same group of grape farmers, to test the hypothesis that this occupational group is at increased risk of reporting skin symptoms compared to non-exposed controls, and to provide data on associated risk factors.
Methods: A cross sectional study was carried out in Malevisi region in Northern Crete. One hundred and twenty grape farmers and 100 controls (tourism employees) were examined. The protocol comprised a questionnaire, skin prick tests for 16 common allergens, and measurement of specific IgE antibodies against eight allergens. Associations among skin symptoms, sensitisation to different allergens, and grape farming characteristics were analysed by logistic regression modeling.
Results: Self-reported itchy rash (OR 2.4; 95% CI 1.1 to 4.9, $p<0.05$) within the last 12 months, and work related itchy rash (OR 4.2; 95% CI 1.1 to 20.7, $p<0.05$) were significantly higher in grape farmers than in controls, after adjusting for age. Pollens were the most common group of allergens among grape farmers with skin symptoms. Sensitisation to pollens (OR 3.7; 95% CI 1.3 to 10.2, $p<0.01$) and allergic rhinitis (OR 3.0; 95% CI 1.2 to 7.6, $p<0.05$) were found to be significantly associated with self-reported itchy rash in the grape farmers group. Work related itchy rash was significantly associated with sensitis ation to pollens (OR 4.3; 95% CI 1.2 to 15.2, $p<0.05$).
Conclusion: The study mainly demonstrated the high prevalence of itchy rash and work related itchy rash in grape farmers compared to controls. Environmental factors such as direct and prolonged contact with specific plant species and allergic sensitisation to them seemed to be the most important risk factors for the reported skin symptoms.

O16.2 OCCUPATIONAL INJURIES IN AGRICULTURAL WORKERS

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Introduction: The agricultural industry has one of the highest rates of fatal injury in the UK, but data on non-fatal occupational injuries in agriculture are limited by substantial underreporting.
Methods: To assess the frequency, nature, and determinants of non-fatal occupational injuries in agricultural workers, a questionnaire about work and health was mailed to 34 486 men living in three rural areas of England and Wales. Among other things this asked about lifetime history of work in agriculture, and about occupational accidents that had led to absence from work for 3+ days. Person-years calculations were used to derive incidence rates for different categories of accident in farmers, and risk factors for accidents in farmers were examined by Poisson regression.
Results: Questionnaires were returned by 10, 65 men, including 3238 (30%) who reported at least one ''lost time'' accident at ages 14–64 years, 1182 of whom were working in agricultural jobs at the time. The most common categories of trauma were back injuries, cuts, and fractures. The risk of occupational accidents among agricultural workers varied little with age or by employment status, but was significantly increased among men who had only recently started such work (RR 3.7, 95% CI 2.7 to 5.1) and in those who undertook forestry (RR 1.7, 95% CI 1.5 to 1.9). The increased risk in foresters applied to most types of accident other than falls from a height and injury by animals.
Conclusions: The risk of accidental occupational injury is particularly high among men who have recently started work in agriculture and in those who undertake forestry.

O16.3 CANCER RISK IN A PROSPECTIVE COHORT OF FARMERS IN NORMANDY: RESULTS ON MORTALITY AND INCIDENCE FOR THE 1995–99 PERIOD

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Introduction: Many epidemiological studies, mainly conducted in Northern America and Europe, consistently showed some differences in causes of death between farmers and the general population. Specifically, farmers would present an overall lower cancer risk especially for tobacco related cancers but would be at higher risk for some tumour sites such as lymphoma, prostate, brain, etc. Around 100 000 tons of pesticides are used every year in France since the 1980s. Very few data were available on this subject in France and we decided to initiate a prospective cohort study on active and retired farmers in 1995 in order to estimate cancer incidence and mortality in Normandy.
Methods: A self-administered questionnaire was submitted to active and retired farmers and to active farm workers at the enrolment in April 1995. This questionnaire collected information on individual characteristics and on farming activities including exposure to specific pesticides. Information on vital status was obtained from INSEE file and from the agricultural health insurance. The cause of death was available only until 1999.
Results: A total of 6070 individuals were enrolled including 35% active farmers (75% males), 9% of active farm workers (80% of males), and 56% of retired farmers (52% males) with an average age in 1995 of 47, 37, and 68 years old, respectively. At 31 December 2002, only 2.5% of the cohort was lost from follow up. A total of 278 deaths occurred during the period 1995–99 which is significantly less than expected based on the general population of the local area. Death from cancer concerned 123 subjects (44%). For males, 22 cases of lung cancer death were observed (standardised mortality ratio (SMR) = 0.6, 95% CI 0.4 to 0.98). In contrast, a non-significant higher number of prostate cancer death was observed (SMR = 1.2, 95% CI 0.7 to 1.9).

O16.4 THE USE OF MEDICINE AMONG FARMERS

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Introduction: Farmers have a higher prevalence of depression compared to workers with other occupations. We wanted to investigate whether this higher prevalence of depression corresponds to a more frequent use of antidepressants among farmers, and to investigate their use of medication in general.
Methods: The study population consisted of 20 166 workers aged 40–47 years from the general population including 398 farmers and 713 part time farmers, from the population based Hordaland Health Study. In addition to type of occupation and use of medicine, mental (HADS) and physical (SF-12) health and lifestyle factors were ascertained.
Results: The farmers reported significantly lower use of medicine in general and a lower, non-statistically significant use of antidepressants compared with other occupational groups. Their physical health was significantly better compared with other occupational groups, and they had a lower consumption of alcohol and tobacco. There were no marked differences in the blood pressure or body mass index between the occupational groups.
Conclusion: The lower use of medicine could reflect a better health in this occupational group, it could be related to a culturally related reluctance

to use of medicine or it could indicate that farmers of other reasons in some instances are not treated properly.

O16.5 PESTICIDE USE AND THE HEALTH OF FARMERS

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Introduction: Pesticides may be acutely toxic at high doses, but the health effects of repeated exposure to moderate concentrations over many years are less well understood.
Methods: Two study groups were identified: one of farmers who had belonged in 1982–83 to an Alberta farming organisation (n = 5896) and a second of members of a research panel established by Alberta Agriculture (n = 4571) and believed to be active in 2002. For comparison with an earlier study in 1983, only grain farmers were included. Farmers were contacted at the last recorded address. Many were untraced or had died, but of the 4997 that were traced, alive and had farmed grain, 2431 (49%) completed a telephone interview. Exposure to active ingredients was inferred from trade names of pesticides, using a database that recorded composition of pesticides used in Alberta.
Results: Subjects had farmed, on average, for 38.8 years and virtually all had used pesticides at some point. Use of protective equipment (particularly gloves) and attendance at training courses had increased markedly since 1983, and farmers were more likely to report that they viewed pesticides as hazardous than in 1983. Compounds containing phenoxyacids (for example, 2,4 D) were the most commonly used (by 90%), with organophosphates (37%), carbamates (22%), and pyrethroids (16%) being less frequent. Chronic effects were found only for the phenoxy pesticides; having allowed for age, study group, and other exposures, those with longer years working with phenoxyacids were more likely to report heart disease, wheezing, and depressive symptoms.
Conclusions: No health effects were found to be associated with pesticides introduced recently. The exposure response patters observed with phenoxyacids deserve further investigation.